CONNECTING THE HUMAN DIMENSION OF HAZARDS AND DISASTERS

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The Natural Hazards Center

1. Translating and Sharing Information
2. Facilitating Connections
3. Training and Mentoring the Next Generation
4. Advancing New Social Science and Interdisciplinary Knowledge

https://hazards.colorado.edu/
CONVERGE – headquartered at the Natural Hazards Center – is a new National Science Foundation-Natural Hazards Engineering Research Infrastructure (NSF-NHERI) facility dedicated to:

✓ linking social science, engineering, and interdisciplinary research communities through networks and research platforms;

✓ developing and sharing best practices for the ethical conduct of research;

✓ enhancing and promoting social science, engineering, and interdisciplinary natural hazards research to reduce vulnerability.
What is Convergence?

➢ Convergence research is often driven by a specific and compelling problem.
➢ It requires the integration of knowledge, theories, methods, and expertise from different disciplines to achieve scientific breakthroughs that otherwise would not be possible.


CONVERGE represents a coming together—for the first time—of NSF-Extreme Events Reconnaissance (EER) networks and NHERI facilities designed to support those efforts.
Why CONVERGE?
Post-Disaster Research

Contributions

Challenges
Post-Disaster Research

Contributions

Challenges
Post-Disaster Research

Contributions

Challenges

- Who sets the post-disaster research agenda?
- Who benefits from the knowledge produced?
- Methodological and ethical critiques:
  - Overemphasis on acute onset, large-scale events.
  - Lack of identification and coordination of researchers.
  - Exclusion of local researchers.
  - Focus on perishable data collection leaves little time to understand local cultures, norms, and policies.
  - Problems with duplication, and not enough scientific replication.
How many social science hazards and disaster researchers are there?

“The size and composition of the hazards and disaster workforce will significantly determine the extent to which the social sciences, in general, can respond forcefully to twenty-first century demands for basic social science knowledge and its application… The committee does not have a precise accounting of the numbers of social scientists from respective disciplines currently engaged in hazards and disaster research. Neither government agencies nor professional associations systematically collect data on this research workforce…” (NRC, 2006, pp. 317, 320, emphasis added).
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- What disciplines do they represent and what is their topical and methodological expertise?
- What disasters have they studied?
- What is the demographic composition of the research workforce?
SSEER is a NSF-supported network and online platform for social science hazards and disaster researchers.

The mission is to:

1) **identify** and **connect** social science researchers to one another, to interdisciplinary teams, and to communities at risk to and affected by hazards and disasters

2) **amplify** and **advance** social science hazards and disaster research
The form to **join SSEER** has been live since July 2018:

hazards.colorado.edu/join-SSEER

hazards.colorado.edu/news/director/a-call-to-social-scientists
How many social science hazards and disaster researchers are there?*

*as of October 30, 2018; this is not a complete census
How many social science hazards and disaster researchers are there?

Where are these researchers located?
The SSEER Census: 618 respondents, by UN Region [as of October 30, 2018]

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SSEER Researchers by 7 UN Regions

Legend

SSEER Researchers

UN Global Regions

Africa
Asia
Americas
Europe
Oceania
Seventeens (open ocean)
Antarctica
SSEER Researchers by 24 UN Subregions
SSEER Researchers by Nation
How many social science hazards and disaster researchers are there?

Where are these researchers located?

What disciplines do they represent and what is their topical and methodological expertise?
The SSEER Census:

Primary Social Science Discipline*

- Anthropology: 71
- Archaeology: 4
- Communication Studies: 16
- Decision Making and Risk Analysis: 62
- Demography: 129
- Disaster Science: 187
- Economics: 21
- Education: 28
- Geography: 140
- History: 14
- International Studies: 34
- Law and Legal Studies: 17
- Urban Planning: 108
- Political Science: 89
- Policy Studies: 44
- Public Administration: 126
- Emergency Management: 55
- Public Health: 19
- Epidemiology: 79
- Social Work: 160
- Sociology: 79

*Does not total 618 as respondents could choose more than one discipline.

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The SSEER Census:

Primary Professional Status

- Academic Researcher: 61%
- Student: 16%
- Private-Sector Researcher: 2%
- Non-Profit Researcher: 4%
- Government Researcher: 8%
- Independent Researcher: 4%
- Other: 5%

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The SSEER Census:

Approaches to Data Collection and/or Analysis*

*Does not total 618 as respondents could choose more than one approach.
The SSEER Census:

Areas of Expertise

Top 10 Areas
- Community Resilience
- Social Dimensions
- Vulnerability Reduction
- Disaster Recovery
- Risk Communication
- Emergency/Risk Management
- Disaster Preparedness
- Climate Change
- Risk Analysis
- Disaster Mitigation

+100s more

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Searching for SSEER Researchers + Individualized Researcher Profiles

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Examples of How to Use the SSEER Maps + Disciplinary Expertise for Research Purposes
Using the SSEER Map, Real Time w/ Current Weather
RQ: What is the spatial relationship between hazards and disaster researchers and zones of risk for different types of hazards? Not just earthquakes, could be flood zones, tornado alley, etc.
RQ: Where are hazards and disaster researchers in relation to the most vulnerable populations?
How many social science hazards and disaster researchers are there?

Where are these researchers located?

What disciplines do they represent and what is their topical and methodological expertise?

What phases of the disaster lifecycle and what disasters have they studied?
The SSEER Census:

Disaster Stages Studied*  

- Disaster Preparedness: 464
- Emergency Response: 359
- Short-Term Reconstruction: 222
- Long-Term Recovery: 363
- Mitigation: 370

*Does not total 618 as respondents could choose more than one stage.
The SSEER Census:

Disaster Types Studied*

Natural Hazards
- Natural-Meteorological: 441
- Natural-Hydrological: 429
- Natural-Geophysical: 299
- Natural-Climatological: 263
- Natural-Biological: 99
- Natural-Extraterrestrial: 34

Technological Hazards: 176
Terrorist Attacks or Other Intentional Violence: 114

*Does not total 618 as respondents could choose more than one type.
The SSEER Census:

Extreme Events Studied

Most Common Disaster Events Studied

- Hurricane Katrina 2005
- Hurricane Harvey 2017
- Hurricane Sandy 2012
- Hurricane Irma 2017
- Hurricane Maria 2017
- + 100s more
How many social science hazards and disaster researchers are there?
Where are these researchers located?
What disciplines do they represent and what is their topical and methodological expertise?
What disasters have they studied?
What is the demographic composition of the research workforce?
The SSEER Census – Demographic Information

Highest Degree

- Associate degree: 71%
- Bachelor's degree: 4%
- Master's degree: 24%
- Doctoral degree: 1%
The SSEER Census – Demographic Information

Race and Ethnicity

- American Indian/Alaska Native: 0.17%
- Arab/Arab American/Middle Eastern: 0.86%
- Asian/Asian American: 4.47%
- Black/African American: 14.60%
- Hispanic/Latino: 5.15%
- White: 6.70%
- Native Hawaiian/Pacific Islander: 0.52%
- Prefer not to answer: 4.81%
- Self-describe: 62.71%

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The SSEER Census – Demographic Information

Gender/Gender Identity

312 | Female
251 | Male
1   | Non-Binary Third Gender
7   | Prefer not to answer
3   | Prefer to self-describe

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The SSEER Census – Demographic Information

All researchers:

- Age range: 23 to 78 years-old
- Average age: 41.31 years-old
- Average of 10.1 years of research experience in hazards and disaster field
The SSEER Census:

Current Status as a Researcher

- Core Researcher: 52%
- Emerging Researcher: 21%
- Periodic Researcher: 21%
- Situational Researcher: 6%

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Current and Future Visions

- Create a **novel, systematic database and maps**
- Work to **democratize the research and engagement process** before, during, and after disaster strikes
- Encourage more **effective cross-disciplinary collaborations** between researchers, practitioners, and policy makers
- Ensure that research is **holistic, rigorous, and ethically-grounded**
- Increase the **visibility and positive impact** of the social science hazards and disaster community by publicly **articulating who we are, what we know, and how we can use our knowledge and skills to reduce hazards and disaster losses**, especially among the most vulnerable people
- Advance a **social science hazards and disaster research agenda grounded in concerns regarding justice, equity, and risk reduction**
Thank you!

Special thanks to the Natural Hazards Center team and especially Mason Mathews, Haorui Wu, Jeffrey Gunderson, Emma Hines, Helen Gardner, and Jennifer Tobin, who contributed to the analyses, maps, and other visuals included in this presentation.
Welcome to the Hazard and Disaster Research Centers web map.

In an effort to increase collaboration and access to emerging research, the Natural Hazards Center has compiled information on more than 300 hazards and disaster research centers at academic institutions around the world. Below, you’ll find a comprehensive list of centers doing work on a wide range of social science, public health, and engineering research.

The map highlights the centers by geographic location. Just click on the locators to view a pop-up menu with basic information about each center and a link to further resources. You might need to zoom in closely on areas containing multiple centers in close proximity. Use the wheel on your mouse or the touchpad on your laptop to zoom in and out. A list of centers arranged by country and state is also included beneath the map. Clicking on the name of a center in this list will take you to the center’s website.

Please see the instructions (WHERE TO FIND THEM) for more information regarding how to use the widgets that will enable you to search for research centers and do other tasks within the

hazards.colorado.edu/resources/research-centers